WHAT IS CLAIMED IS:

1. A method for refining a glass melting wherein a vacuum is generated above a surface of a glass flux, the method comprising:

conducting the glass flux (27b, 17b) sequentially through a plurality of successive vacuum chambers (28, 15), and

reducing the pressure (P1, P2) in the successive vacuum chambers (28, 15) relative to an atmospheric pressure.

2. In the method in accordance with claim 1, wherein each of the vacuum chamber (28, 15) is assigned an individual vacuum pump (25, 14).

3. In the method in accordance with claim 2, wherein the glass flux (27b, 17b) is conducted through two of the vacuum chambers (28, 15) wherein a first pressure (P1) in a first vacuum chamber (28) is selected in a first range of 600 mbar to 300 mbar, and a second pressure (P2) in the second vacuum chamber (15) is selected in a second range between 300 mbar and 30 mbar.

4. In the method in accordance with claim 1, wherein the glass flux (27b, 17b) is conducted through two of the vacuum chambers (28, 15) wherein a first pressure (P1) in a first vacuum chamber (28) is selected in a first range of 600 mbar to 300 mbar, and a second pressure (P2) in the second vacuum chamber (15) is selected in a second range between 300 mbar and 30 mbar.

5. In the method in accordance with claim 1, wherein a plurality of vacuum chambers (28, 15) designed as a horizontal refining bench (22, 12) wherein the glass flux (27a) from an inlet basin (30) is conducted to the first vacuum chamber (28) via an inlet ascending pipe (21), the incoming gas flux (17a) is provided to a respectively following vacuum chamber (15) of the vacuum chambers (28, 15) via an intermediate ascending pipe (11) adjoining an end of the previous refining bench (28), and a final vacuum chamber (15) of the vacuum chambers (28, 15) conducts the glass flux (17c) to an outlet basin (40) via a downpipe (13).

6. In the method in accordance with claim 5, wherein a wall (11a) which is in a front in a direction of flow of the glass flux (27b) of the intermediate ascending pipe (11) to the subsequent vacuum chamber (15) of the vacuum chambers (28,15) partially extends into the glass flux (27c) of the previous refining bench (22).

7. In the method in accordance with claim 1, wherein the vacuum chambers (28, 15) are arranged vertically above each other in a multi-chamber housing (50), the glass flux (27b) is conductable through a ceiling inlet (41) to the uppermost vacuum chamber (28) and enters the following vacuum chamber (15) via a bottom outlet (53), a refined glass flux (17c) exits through a bottom outlet (54) of the lowermost vacuum chamber (15), and each of the vacuum chambers (28, 15) is connected with an individual vacuum pump (25, 14) above the received glass flux (27b, 17b).

8. In the method in accordance with claim 7, wherein the vacuum chambers (28, 15) have connecting openings for the vacuum pumps (25, 14) in the lateral walls of the multi-chamber housing (50).

9. In an apparatus for refining a glass melting wherein a vacuum is generated above a surface of a glass flux, the improvement comprising:

a plurality of vacuum chambers (28, 15) designed as a horizontal refining bench (22, 12) wherein the glass flux (27a) from an inlet basin (30) is conducted to the first vacuum chamber (28) via an inlet ascending pipe (21),

a respectively following vacuum chamber (15) of the vacuum chambers (28, 15) being provided with the incoming glass flux (17a) via an intermediate ascending pipe (11) adjoining an end of the previous refining bench (28), and

a final vacuum chamber (15) of the vacuum chambers (28, 15) conducting the glass flux (17c) to an outlet basin (40) via a downpipe (13).

10. In the apparatus in accordance with claim 9, wherein a wall (11a) which is in a front in a direction of flow of the glass flux (27b) of the intermediate ascending pipe (11) to the subsequent vacuum chamber (15) of the vacuum chambers (28,15) partially extends into the glass flux (27c) of the previous refining bench (22).

11. In the apparatus in accordance with claim 9, wherein the vacuum chambers (28, 15) are arranged vertically above each other in a multi-chamber housing (50), the glass flux (27b) is conductable through a ceiling inlet (41) to the uppermost vacuum chamber (28) and enters the following vacuum chamber (15) via a bottom outlet (53), the refined glass flux (17c) exits through a bottom outlet (54) of the lowermost vacuum chamber (15), and each of the vacuum chambers (28, 15) is connected with an individual vacuum pump (25, 14) above the received glass flux (27b, 17b).

12. In the apparatus in accordance with claim 11, wherein the vacuum chambers (28, 15) have connecting openings for the vacuum pumps (25, 14) in the lateral walls of the multi-chamber housing (50).

13. In the apparatus in accordance with claim 12, wherein the vacuum chambers (28, 15) are combined in a modular unit.